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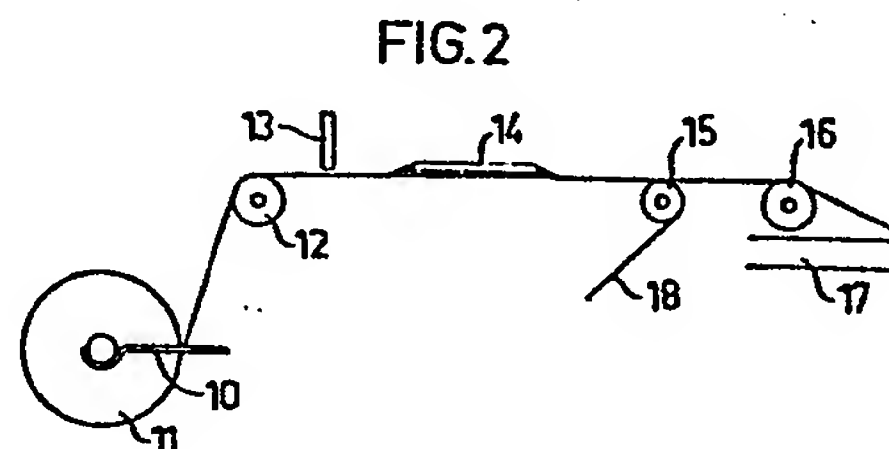
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(54) **Plastic pockets and a device for dispensing them.**

(57) The invention relates to plastic pockets to be applied to parcels and the like and intended to contain address labels, packing lists and the like, and which are provided with an adhesive on one side to be applied to the parcel. According to the invention, the plastic pockets are formed from two plastic films which are welded together with a bottom weld (1) and two lateral welds (2, 3), which do not reach up to the openings of the pockets so that a section (5) is formed where the films are not welded together. The pockets are applied to a protective paper in the form of a continuous web and are separated by perforations (6) which only penetrate the plastic films but not the protective paper.

The invention also relates to a device for dispensing plastic pockets according to the above and comprising a holder (10) for a roll (11) of a web of a number of plastic pockets on a continuous protective paper and means (14) for opening the pockets for introduction of dispatch notes and/or other communications. In a preferred embodiment the feed of the web of pockets is driven and is controlled by sensor means (13) so that the opening is correctly carried out.



Plastic pockets and a device for dispensing them

This invention relates to plastic pockets with an adhesive on one side and protective paper over the adhesive, intended to be applied to parcels and other packets after insertion of dispatch notes, packing lists, invoices, delivery notes, etc. and after removal of the protective paper. The invention also relates to devices for dispensing the plastic pockets with their contents but without protective paper.

When parcels are sent, distinction is made between two main types of dispatch, viz. joint sending and separate sending. In joint sending, dispatch notes and parcels are sent together, while in separate sending they are each sent individually. Separate sending is the oldest system and is usually carried out in such a way that there is a certain number on both the parcel and the dispatch note. The dispatch note is sent separately to the addressee and the parcel to the nearest post office, railway station or the like. The main disadvantage of this system is that the parcel and the dispatch note often do not reach their destination at the same time. One way of solving this problem is to use joint sending, in which the dispatch note is sent together with the parcel to the place of destination, from which the dispatch note is then sent to the addressee. The most common system is then to use a dispatch note which is attached to an underlying address label adhered to the parcel. The dispatch note can then be detached and sent out. The disadvantage of this system is i.a. that the dispatch note must necessarily be made rather stiff so that it can be handled in mail delivery, which, however, creates difficulties in typewriting. In particular it is not possible to utilize the advantages in transcription of a great number of addresses with a data printer.

One way of solving this problem is to use plastic pockets which are adhered to the parcels. The dispatch notes are then inserted into these plastic envelopes. Moreover, other communications such as packing lists, invoices, delivery notes, etc. can also easily be inserted into the pockets. The plastic pockets consist of two plastic films which are cut to rectangles and welded together along three sides. One film is provided with an adhesive with an overlying protective paper. The plastic pockets are usually delivered as separate units or as a continuous web wherein the plastic pockets are separated by perforations made through both the plastic films and the protective paper. The plastic pockets can then be torn off these webs. Irrespective of the fact whether the plastic pockets are delivered as separate units or as continuous webs, it has turned out to be difficult to obtain an efficient handling of them i.a. because it is time-consuming and difficult to open them and to detach the protective paper. These problems are eliminated by the present invention, which makes possible an efficient handling of the plastic pockets.

According to the present invention, there are provided plastic pockets having an adhesive on one side and being provided with protective paper over the adhesive and, moreover, devices for dispensing the plastic pockets with their contents but without the protective paper. The characterizing features of the invention are apparent from the claims and will be described more in detail in connection with the enclosed figures.

In Fig. 1 various embodiments of the plastic pockets according to the invention are shown and Figs. 2 and 3 show various embodiments of the device according to the invention.

In Fig.1 a number of plastic pockets according to the

invention can be seen. The pockets consist of two plastic films which are welded together by means of a bottom weld (1) and two lateral welds (2, 3). One of the plastic films is provided with an adhesive on its outside and a protective paper on the adhesive layer. The plastic pockets are separated by perforations (6) going through the plastic films only but not through the protective paper. This is an essential characteristic feature of the invention. Previously known plastic pockets have been separated by perforations which also pass through the protective paper. One has then had to choose between two alternatives, either to have a very heavy perforation so that the plastic pockets only just hang together, or a very moderate perforation so that the plastic pockets are very strongly connected to each other. It is true that in the first case the plastic pockets can be easily separated from each other but as the protective paper is also perforated, there is a great risk that the pockets come loose from each other when this should not occur. This is a great problem if the pockets are to be fed forward by applying a tractive force and pulling out the web of pockets which is i.a. the case when the pockets are to be used in various dispensers, e.g. in the devices described in the present invention. In the other case, the pockets stick so firmly together that it is difficult to separate them from each other. By instead only perforating the plastic films, it is achieved that the plastic pockets can be easily separated from each other by selecting a relatively heavy perforation and that the protective paper is not weakened at any point so that the pockets are separated from each other at the wrong time. Instead of being perforated, the pockets may be completely severed from each other down to the protective paper except for a small section (8) at the open portion (4) of the pockets.

This can be regarded as an extremely heavy perforation. Irrespective of whether the pockets are entirely severed from each other or separated by the perforation (6), it is essential that the pockets are joined to each other with at least a small part at the apertures (4), so that a pocket can be opened by lifting the upper film at the edge of the pocket or, most preferably, by lifting the upper film of adjacent pockets. This is necessary because it must be easy to insert the dispatch notes and other communications to be kept in the pockets. In particular, this is necessary in order that the plastic pockets might be used in the devices according to the invention.

In order to make it still easier to open the pockets, the lateral welds do not reach right up to the open portion (4) but leave an unwelded length (5). This embodiment is also necessary in order that the pockets might be used in the devices according to the invention. Instead of letting the upper and the lower film have equal lengths at the opening (4) the upper film may be somewhat longer so that a piece (9) thereof projects. It is then sufficient that the upper films belonging to adjacent pockets are connected by this projecting piece, the lower film being completely cut through. Another embodiment of the pockets is that the upper plastic film projects somewhat (7) at the bottom so that a gripping tab is formed instead of the two films at the bottom having equal lengths. This will to a large extent facilitate removing the pockets from the protective paper when this process is carried out manually.

In Fig. 2 is shown a schematic view of a device according to the invention for dispensing the plastic pockets described above. A roll (11) with a number of plastic pockets on protective paper is placed in the holder (10).



The holder can be made in several ways but usually consists of a suspension device over which the roll with a bobbin and a through-going shaft can be hung, as is indicated in the figure. The roll is preferably provided with some type of brake. Various brakes are well-known in the art and as examples can be mentioned a braking system in which the plastic pockets with the protective paper pass between two braked rollers, or wherein a spring presses against the surface of the roll, or a band pressing against the roll as it is attached above the roll and hangs down with a weight around one side of the roll, and braking by a friction brake in the shaft of the roll. From the roll, the plastic pockets with protective paper pass over a breaker roller (11), by a sensor (13) via an opening device (14) to a roller (15), at which the protective paper is separated from the pockets. The pockets continue straight over the driven support roller (16) and the protective paper is received by a system of rollers, of which at least one is driven. Furthermore, there is a motor for driving the rollers and a switch for manually starting the driven rollers. The device functions in the following way. The pockets with protective paper are rolled off the roll (11) by the roller or rollers taking hold of the protective paper. This system of rollers can be embodied in several manners. In the simplest case it consists of only one roller which is driven and around which the protective paper is rolled. In another embodiment the paper is drawn between two rollers and can be torn off against a tearing edge. Many other embodiments are of course also possible and well-known in the art. What is important is that the driven roller or rollers included in the system like the support roller (16) can stop very quickly when the sensor (13) makes a signal that a plastic pocket is in the correct position and opened by the device (14).

This can also be arranged in several ways. A very suitable method has been found to be in the use of a type of synchronous motor which in a currentless state exerts a locking momentum and which, moreover, stops very rapidly. The sensor (13) can also be designed in several ways and can for example consist of a micro-switch which abuts against the upper plastic film and senses the perforation or the section between the pockets or specially made ridges or holes. Another possibility is to use a photocell sensing a printing on the film.

The plastic pockets with protective paper are passed from the roll via the roller (12) and the sensor (13) to the opening device 14. This device operates in such a way that the lower film with protective paper is held down against a support so that in the insertion of the dispatch notes and/or the other communications, the risk of these being placed under the pockets is eliminated. This part is in its simplest embodiment a planar portion which at some distance above the support enters the pocket to some extent so that between this portion and the support a space is formed, through which the lower film with protective paper is running. One condition of this is of course that the lateral welds of the pockets do not extend as far as to the open portion of the pockets. Another possibility is that the protective paper may project somewhat and that only the protective paper is fed in the space, in which case the lateral weld can extend farther out. However, it is a condition that the lateral weld does not extend to the edge in order that the pocket might be opened by the upper film being lifted. This is made in such a way that the opening device, in addition to the planar portion holding down the lower film and having a small thickness, furthermore consists of two projections lifting the upper film so that the

pocket is opened. The distance between these projections is selected such that the opening will be sufficiently wide and the height of the projections such that the opening becomes sufficiently high in order that the dispatch note and/or the other communications might easily be inserted into the pocket. As the upper plastic film is connected to the upper plastic film in adjacent pockets it is possible that only this portion of the upper film is lifted, the pocket being open throughout over its whole width without the lifting device obstructing the access.

Other opening devices known to one skilled in the art can also be used. Thus, such known devices can be used that inflate the opening of the pocket with compressed air or which lift the upper film by means of suction cups. What is essential is only that the pocket is opened over a sufficient width so that the intended contents might be introduced. The function of mechanically operating opening devices can of course also be controlled by signals from the sensor 13 so that the pocket is opened when it is in the correct position.

After a pocket has been provided with its contents, the driven rolls are started, preferably manually, by means of a switch until the next pocket is in position, the sensor (13) then again stopping the drive. The switch can be embodied in several ways but it is especially advantageous to use a relatively big touch control which need only be touched to start the drive. After providing the pockets with their contents, the protective paper is detached at the roller 15. Here the protective paper is drawn downwards at 18 and the pockets continue straight out across the support roller (16). In order that the pockets should not accompany the protective paper, it is necessary that the peripheral speed of the support roller is such that



the pulling force on the separated pockets is sufficiently high to overcome the binding force of the adhesive to the protective paper. The velocity of the support roller must also be so high that the separated pockets, which thus have the adhesive layer against the roll, slip against the support roller and do not follow it all around by sticking onto it. The susceptibility to sticking can also be reduced by reducing the contact surface of the support roll, e.g. by grooves in the surface, or by a suitable adhesion reducing surface of the support roll, e.g. of fluorine plastics.

In previously known devices for dispensing e.g. labels provided with adhesive and protective paper, only the roller 15 and not the support roller 16 has been used. As the label was made of a relatively stiff material it continued straight out and the protective paper came loose by the bending around the roller 15. However, this is more difficult when relatively soft plastic pockets are used which are bent down and follow the protective paper. Moreover, the roller 16 makes possible a more secure separation of the protective paper irrespective of the stiffness of the label or pocket. In the use of the device according to the invention, the distance between the rollers 15 and 16 is adjusted such that when the machine stops by the sensor 13 giving off a signal a whole pocket hangs outside the roller 16 and additionally, a small portion of the following pocket. The first pocket can then be torn off and placed on the parcel. Before this is done the pocket can, however, be provided with a marking slip, such as an address note, on its underside (adhesive side). This is made possible by the holder 17 on which the marking slip is placed. The holder can be placed so close to the pocket that this is bent down by its own weight towards the holder so that the slip adheres, or a little further away

from the pocket so that one has to press the pocket down against the marking slip. The use of the marking slip is a guarantee if the other papers should drop out of the pocket itself.

In Fig. 3 a simpler embodiment of a device for manual handling according to the invention is shown. The device consists of a holder (10) for the roll with a roll (11) from which the plastic pockets with protective paper are drawn up to an opening device (13). The opening device is of the same kind as described above. After insertion of the dispatch note and/or other communications the pocket is pulled away from the protective paper and a new pocket is pulled out. The separated protective paper can be pulled out over a tearing edge 19 against which it can be torn off. When using this device it is especially advantageous to use pockets having a gripping flap at the bottom and which are separated from each other by cuts down to the protective paper as described above, in order to make easier the removal of the pockets from the protective paper.

## Patent Claims

1. Plastic pockets provided with an adhesive on one side and a protective paper over the adhesive, said pockets being intended to be applied to parcels and other packets after insertion of dispatch notes and/or other communications in the pockets and removal from the protective paper, and arranged in the form of a continuous web, characterized in that they are formed of two plastic films which are welded together by means of a bottom weld (1) and two lateral welds (2, 3), which do not extend up to the openings of the pockets, so that a part (5) is formed where the films are not welded together, said pockets being separated by means of perforations (6), which only pass through the plastic films but not through the protective paper and that the openings (4) of the pockets are arranged in the longitudinal direction of the web.
2. Plastic pockets according to claim 1, characterized in that the perforation (6) is made such that two adjacent pockets are connected at least partly on the part of the perforation corresponding to the part (5), where the two plastic films are not welded together.
3. Plastic pockets according to claim 1 or 2, characterized in that they are completely cut from each other down to the protective paper except for a small part (8) close to the opening (4).
4. Plastic pockets according to any of claims 1-3, characterized in that the upper plastic film is somewhat longer than the lower plastic film at the opening (4) of the pockets and forms a flap (9).
5. Plastic pocket according to any of claims 1-4, characterized in that at the bottom of each pocket, the upper film is longer than the lower film and the protect-

ive paper so that it extends to a holding flap (7).

6. Plastic pockets according to any of claims 1-5, characterized in that they are rolled to a roll together with the protective paper.

7. A device for dispensing plastic pockets according to any of claims 1-6, characterized in that it comprises a holder (10) for a roll (11) of a web of a number of plastic pockets on a continuous protective paper and means (14) for opening the pockets for introducing dispatch notes and/or other communications, and optionally also a tearing edge (18) for the protective paper after separation from the pockets.

8. The device according to claim 7, characterized in that it also comprises a breaker roller (12), over which the web of protective paper with plastic pockets is running, sensor means (13) for sensing the position of the pockets, a breaker roller (15) at which the protective paper (18) is separated from the pockets, a driven device for feeding forward the protective paper and a driven support roller (16) for feeding forward the plastic pockets separated from the protective paper, the drive means of the support roller (16) giving this roller a peripheral speed such that a pulling force is applied to the separated pockets, said force being sufficiently high to separate the pockets from the protective paper, and that starting and stopping the pulling of the protective paper and the pockets separated therefrom is controlled by signals from the sensor means (13).

9. The device according to claim 8, characterized in that the roll (11) is braked and that the sensor means (13) controls the pulling operation such that it stops when a pocket is opened by the opening means (14) and

is situated before said means, after which the pulling operation can be restarted manually.

10. The device according to any of claims 7-9, characterized in that the opening means (14) is arranged such that it holds down the lower film and the protective paper but lifts the upper film so that the pocket is opened, whereby it is only in contact with the upper film at the edge of the pocket being opened, or only parts of the upper film associated with adjacent pockets.







DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
A	US-A-3 355 090 (WERBY) * Whole document *	1,4	B 65 D 27/10 B 65 B 43/12
A	--- DE-A-2 753 451 (HAAF) * Whole document *	1,6	
A	--- US-A-3 330 471 (TIMMS) * Whole document *	1,6	
A	--- FR-A-2 033 877 (MOORE) * Whole document *	7,8	
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			TECHNICAL FIELDS SEARCHED (Int. Cl. 3)
			B 65 D B 65 B G 09 F
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 25-01-1984	Examiner MARTIN A.
<b>CATEGORY OF CITED DOCUMENTS</b>			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	